

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF HAWAII**

In the Matter of the Application of)

HAWAII ELECTRIC LIGHT COMPANY, INC.)

For Approval of Rate Increases and)
Revised Rate Schedules and Rules.)
_____)

Docket No. 05-0315

**HELCO
VOLUMINOUS RESPONSES TO
CONSUMER ADVOCATE
INFORMATION REQUESTS**

BOOK 5 OF 15

January 12, 2007



CA-IR-21

Ref: HELCO-202 and HELCO WP-202.

For each of the Company's rate schedules, please provide the following information associated with the test year sales forecast:

- a. Provide complete copies of the 2006 HELCO Sales Forecast formal report and supporting workpapers prepared by the Energy Services Department.
- b. Provide complete copies of documents associated with the Forecast Planning Committee's review, analysis and approval of the 2006 HELCO Sales Forecast.
- c. Explain how the results of each of the GWH "Mathematical Trending" and "Econometric Models" listed in HELCO WP-202 were considered and weighted into determination of the final 2006 "Annual GWH Sales" and "Average Monthly Bills" included in the approved 2006 forecast amounts.
- d. Explain and provide calculation documentation for the 2006 "Acquired DSM" adjustment set forth in Table A of HELCO-202.
- e. Explain and provide calculation documentation for the 2006 "Future DSM" adjustment set forth in Table A of HELCO-202.
- f. Explain and provide calculation documentation for the 2006 "Acquired CHP" adjustment set forth in Table A of HELCO-202.
- g. Explain and provide calculation documentation for the 2006 "Future CHP" adjustment set forth in Table A of HELCO-202.
- h. Please calculate and compare the proposed 2006 test year KWh usage per average customer in HELCO-202 for Schedules R, G/J and H/K to the corresponding actual kWh usage per customer experienced in each of the last three calendar years (2003, 2004 and 2005).
- i. Explain the known reasons for any significant variances between recent actual average usage per Schedule R, G/J, or H/K customer (your response to part h) and the Company's proposed test year kWh usage per average customer.

HELCO Response:

- a. This information is confidential, and will be provided pursuant to Protective Order No. 22593 dated June 30, 2006.

- b. See Pages 4 and 5 of this response for signature approvals of the Forecast Planning Committee members for the June 1, 2005 sales forecast and accompanying memo.
- c. Please refer to Forecast Planning Committee Report 2005, Section 3, pages 6 - 9.
- d. See page 6 of this response.
- e. See page 7 through 11 of this response.
- f. See page 12 of this response.
- g. See response to part f.
- h. Requested data is summarized below:

Comparison of Average KWH/month Use per Customer				
Rate Schedule	Test Year	2005	2004	2003
R	591.2	589.9	584.9	573.6
G/J	3,056.5	2,912.2	3,032.6	3,079.6
H/K	5,429.3	5,378.3	5,517.9	5,472.0

- i. HELCO does not forecast nor monitor sales based on average KWH use for Schedules G/J and H/K. This is because of the wide variation in facility sizes as well as business types and building constructions so as to make an average value meaningless for purposes of sales forecasting. Also, temporary residential service is provided under Schedule G which may cause the average use to be non-representative of the "average" Schedule G customer. In general, average usage for Schedule R has been increasing in recent years. HELCO believes this to be due to several factors, which may include: (1) increasing economic prosperity on the Big Island that results in greater disposable income by families, thus people are more willing and able to spend more on electricity for convenience; (2) more appliances in homes, such as air conditioning units, second refrigerators or freezers, and personal

computer equipment; (3) increasing new stock of larger homes located on resort properties, especially in West Hawaii, which use more electricity.

HAWAII ELECTRIC LIGHT COMPANY, INC.

TABLE 1 (a)

FORECAST OF CUSTOMER LEVEL SALES (GWH)

June 1, 2005

	(B)	(B)	(F)	(F)	(F)	(F)	(F)	(F)
	2003	2004*	2005	2006	2007	2008*	2009	2010
Base Sales ¹ excluding DSM & CHP	1,078.1	1,120.1	1,159.8	1,196.3	1,229.4	1,262.3	1,291.8	1,321.3
Acquired DSM ²	(23.0)	(25.7)	(27.0)	(24.2)	(23.1)	(23.0)	(22.6)	(21.7)
Future DSM ³			(2.6)	(2.7)	(2.7)	(2.8)	(2.9)	(3.5)
Sales w/o Adjustment for CHP	1,055.1	1,094.4	1,130.2	1,169.5	1,203.5	1,236.6	1,266.4	1,296.1
Acquired CHP ⁴	(9.1)	(13.9)	(15.8)	(15.8)	(16.0)	(15.9)	(15.8)	(15.8)
Future CHP ⁵			(2.8)	(10.6)	(17.2)	(23.6)	(28.9)	(34.6)
Total Sales ⁶	1,046.0	1,080.4	1,111.6	1,143.1	1,170.4	1,197.1	1,221.7	1,245.7
Chg in Sales,	52.9	34.4	31.2	31.4	27.3	26.8	24.6	24.0
& Chg	5.3%	3.3%	2.9%	2.8%	2.4%	2.3%	2.1%	2.0%

¹ Estimated Base Sales including Embedded HDEC, Acquired & Future DSM, and Acquired & Future CHP

² Acquired DSM at customer level 1996 through 2004 ramped, net of free riders, and includes decay factors.

³ Future DSM, ramped, at customer level, net of free riders

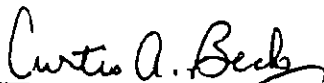
⁴ Acquired CHP, impacts including both utility and 3rd party installations from 2001 through 2004

⁵ Future CHP impacts including both utility and 3rd party installations

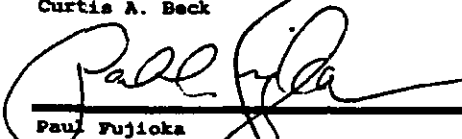
⁶ Total Sales including Embedded HDEC, Acquired and Future DSM, and Acquired and Future CHP

* Leap Year

Forecast Planning Committee:



Curtis A. Beck



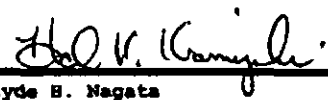
Paul Fujioka

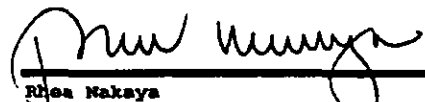



Jay Ignacio



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For Clyde H. Nagata


Rhea Nakaya


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**INTEROFFICE
CORRESPONDENCE**



Hawaii Electric Light Co., Inc.

July 8, 2005

To: Forecast Planning Committee

From: Jon Hayashida, Forecast/Data Analyst

Subject: Correction to Table 1(a) Forecast Planning Committee Report Short-Term Sales and Peak Forecast approved June 1, 2005

Attached is a correction sheet for Table 1(a) of the approved Forecast Planning Committee Report. The Total Sales in the original Sales Forecast Table 1(a) approved on June 1, 2005 is correct. However, the Future DSM showed incremental KWH values from 2005 through 2010 while it should show "cumulative" values from 2005 through 2010. The sheets in Table 1(a) have been changed to reflect these values and will be the sheet included in the FPC Report. Subsequently, the top line "Base Sales excluding DSM & CHP" increased by the values reflected in the Future DSM. This correspondence will be attached to the originally signed sheets for documentation purposes.

If there are any questions please contact me at 969-0128.

Hawaii Electric Light Company, Inc.

**Hawaii Electric Light Co., Inc Test Year Sales & Peak Forecast
Acquired DSM MWH Impact**

	<u>R</u>	<u>G</u>	<u>J</u>	<u>H</u>	<u>P</u>	<u>Commcl</u>	<u>Total</u>
2003	8,925	1,463	5,754	232	6,630	14,078	23,003
2004	9,509	1,669	6,819	247	7,484	16,219	25,728
2005	9,812	1,766	7,231	261	7,918	17,176	26,988
2006	7,411	1,706	7,231	261	7,606	16,804	24,215
2007	6,855	1,694	7,214	261	7,125	16,294	23,150
2008	6,855	1,667	7,181	261	7,009	16,117	22,973
2009	6,855	1,638	7,103	260	6,699	15,701	22,557
2010	6,855	1,621	7,051	259	5,955	14,887	21,742

For DSM installations 1996-2004.

Annualized in subsequent years using December impact multiplied by 12.

Reference: HELCO-202, Table A.

Hawaii Electric Light Co., Inc Test Year Sales & Peak Forecast
Future DSM Impacts

<u>Total</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Jan	19	239	465	697	934	1,181
Feb	32	232	436	646	860	1,087
Mar	54	276	503	735	973	1,229
Apr	70	285	505	730	961	1,212
May	91	314	541	775	1,014	1,278
Jun	106	321	542	769	1,000	1,260
Jul	128	351	580	814	1,054	1,327
Aug	147	370	600	834	1,075	1,352
Sep	159	376	599	826	1,060	1,332
Oct	183	408	638	874	1,115	1,401
Nov	195	413	636	865	1,099	1,380
Dec	220	446	677	913	1,156	1,451
Total	1,405	4,032	6,723	9,479	12,302	15,491

R	281	800	1,320	1,839	2,359	2,883
G	601	1,728	2,889	4,085	5,317	6,694
H	16	45	75	106	138	173
P	507	1,459	2,439	3,448	4,488	5,740
Total	1,405	4,032	6,723	9,479	12,302	15,491

gwh						
R	0.3	0.8	1.3	1.8	2.4	2.9
G	0.6	1.7	2.9	4.1	5.3	6.7
H	0.0	0.0	0.1	0.1	0.1	0.2
P	<u>0.5</u>	<u>1.5</u>	<u>2.4</u>	<u>3.4</u>	<u>4.5</u>	<u>5.7</u>
Total	1.4	4.0	6.7	9.4	12.3	15.5

Reference: HELCO-202, Table A.

Hawaii Electric Light Co., Inc Test Year Sales & Peak Forecast
Future DSM Impacts

<u>GJHP</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Jan	15	192	374	561	754	957
Feb	26	186	350	520	695	881
Mar	43	221	404	592	786	997
Apr	56	228	406	588	776	985
May	73	251	435	624	819	1,039
Jun	85	258	436	619	808	1,025
Jul	102	282	466	656	852	1,081
Aug	117	297	482	673	869	1,102
Sep	128	302	481	666	857	1,086
Oct	147	327	513	705	902	1,144
Nov	156	331	512	697	889	1,127
Dec	176	358	545	737	935	1,185
Total	1,124	3,232	5,403	7,639	9,943	12,607

Reference: HELCO-202, Table A.

Hawaii Electric Light Co., Inc Test Year Sales & Peak Forecast
Future DSM Impacts

<u>R</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Jan	4	47	91	134	178	222
Feb	6	46	85	124	164	203
Mar	11	54	98	141	185	229
Apr	14	56	98	140	183	225
May	18	62	105	149	192	236
Jun	21	63	105	147	190	232
Jul	25	69	112	156	200	244
Aug	29	73	116	160	203	247
Sep	32	74	116	158	200	243
Oct	36	80	123	167	211	255
Nov	39	81	123	165	207	250
Dec	44	87	131	174	218	262
Total	278	791	1,304	1,817	2,331	2,849

<u>E</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Jan	0	1	1	2	2	3
Feb	0	1	1	2	2	2
Mar	0	1	1	2	2	3
Apr	0	1	1	2	2	3
May	0	1	1	2	2	3
Jun	0	1	1	2	2	3
Jul	0	1	1	2	2	3
Aug	0	1	1	2	2	3
Sep	0	1	1	2	2	3
Oct	0	1	1	2	3	3
Nov	0	1	1	2	3	3
Dec	1	1	2	2	3	3
Total	3	10	16	22	28	34

Total Residential						
Jan	4	48	92	136	180	224
Feb	6	46	86	126	166	206
Mar	11	55	99	143	187	232
Apr	14	57	99	142	185	228
May	18	62	106	151	195	239
Jun	21	64	106	149	192	235
Jul	26	70	114	158	202	247
Aug	29	73	118	162	206	250
Sep	32	75	117	160	203	246
Oct	37	81	125	169	213	258
Nov	39	82	124	167	210	253
Dec	44	88	132	176	221	265
Total	281	800	1,320	1,839	2,359	2,883

Hawaii Electric Light Co., Inc Test Year Sales & Peak Forecast
Future DSM Impacts

<u>G</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Jan	2	20	40	59	80	101
Feb	3	20	37	55	74	93
Mar	5	23	43	63	83	105
Apr	6	24	43	62	82	104
May	8	27	46	66	87	110
Jun	9	27	46	66	86	108
Jul	11	30	49	69	90	114
Aug	12	31	51	71	92	116
Sep	14	32	51	71	91	114
Oct	16	35	54	75	96	120
Nov	17	35	54	74	94	119
Dec	19	38	58	78	99	125
Total	119	342	572	809	1,053	1,330
<u>J</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Jan	6	82	160	241	323	410
Feb	11	80	150	223	298	377
Mar	19	95	173	254	337	426
Apr	24	98	174	252	333	420
May	31	108	187	268	351	443
Jun	36	110	187	266	347	436
Jul	44	121	200	282	366	460
Aug	50	127	207	289	373	468
Sep	55	129	206	286	367	461
Oct	63	140	220	302	387	485
Nov	67	142	219	299	381	477
Dec	76	153	234	316	401	502
Total	482	1,386	2,317	3,277	4,264	5,364
Total G+J						
Jan	8	102	200	300	403	511
Feb	14	99	187	278	371	470
Mar	23	118	216	317	420	531
Apr	30	122	217	315	415	524
May	39	134	233	334	438	552
Jun	45	138	233	331	432	545
Jul	55	151	249	351	456	573
Aug	63	159	258	360	465	584
Sep	68	161	257	356	458	575
Oct	78	175	274	377	482	605
Nov	83	177	274	373	475	596
Dec	94	191	291	394	500	626
Total	601	1,728	2,889	4,085	5,317	6,694

Hawaii Electric Light Co., Inc Test Year Sales & Peak Forecast
Future DSM Impacts

<u>H</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Jan	0	3	5	8	10	13
Feb	0	3	5	7	10	12
Mar	1	3	6	8	11	14
Apr	1	3	6	8	11	14
May	1	3	6	9	11	14
Jun	1	4	6	9	11	14
Jul	1	4	6	9	12	15
Aug	2	4	7	9	12	15
Sep	2	4	7	9	12	15
Oct	2	5	7	10	13	16
Nov	2	5	7	10	12	15
Dec	2	5	8	10	13	16
Total	16	45	75	106	138	173

<u>P</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
Jan	7	86	169	253	340	432
Feb	12	84	158	235	314	399
Mar	20	100	182	267	355	452
Apr	25	103	183	266	350	447
May	33	113	196	282	370	472
Jun	38	116	197	280	365	466
Jul	46	127	210	296	385	492
Aug	53	134	218	304	392	502
Sep	58	136	217	301	387	496
Oct	66	148	232	318	407	523
Nov	70	149	231	315	401	515
Dec	80	161	246	333	422	543
Total	507	1,459	2,439	3,448	4,488	5,740

Hawaii Electric Light Company, Inc.
Acquired Combined Heat and Power (CHP) Impacts
Test Year 2006 Forecast

	<u>Cumulative No. of Systems</u>	<u>Ramped, Cumulative GWH</u>
2001	1	3.2
2002	1	6.4
2003	2	9.1
2004	3	13.9

Hawaii Electric Light Company, Inc.
Future Impacts Combined Heat and Power (CHP)
Test Year 2006 Forecast

	<u>Cumulative No. of Systems</u>	<u>Ramped, Cumulative GWH</u>
2005	4	2.8
2006	10	10.6
2007	17	17.2
2008	25	23.6
2009	33	28.9
2010	41	34.6

Reference: HELCO-202, Table A.





CA-IR-22

Ref: HELCO-202 and HELCO WP-202.

For each of the Company's rate schedules, please provide a copy of the recently completed updated June 2006 HELCO Sales Forecast formal report and supporting workpapers.

HELCO Response:

This information is confidential, and will be provided pursuant to Protective Order No. 22593 dated June 30, 2006. Due to the voluminous nature of the information, one copy will be provided under separate cover.

